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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/975,918

10/12/2001

Keiko Morii

MAT-8193US

9228

7590

12/07/2004

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EXAMINER

ABEBE, DANIEL DEMELASH

ART UNIT

PAPER NUMBER

2655

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/975,918	Applicant(s) MORII ET AL.	
	Examiner Daniel D Abebe	Art Unit 2655	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/12/01</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

Claims 13, 14, 15 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The "step of resetting usage of the selected trained patterns and the determined distortion coefficient" lacks description in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 7, 10, 16-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Digalakis et al. (5,864,810) and in view of Sejnoha (5,008,941)

As to claim 1, Digalakis teaches a speech recognition method, comprising the steps of:

Selecting (119), from a plurality of stored trained pattern clustered according to characteristics (117) an adaptable trained pattern (recognized states);

Finding transformation value based on the difference between the recognized states and the adaptable trained pattern (113); and

Recognizing a subsequent speech according to the transformation value (123);

Digalakis doesn't explicitly teach where said difference includes the spectral frequency distortion. Sejnoha, however, teaches a speech recognition method, where the spectral frequency distortion between a reference and an input speech is determined for adapting the speech pattern (Fig.7; Col.7, lines 5-15). It would have been obvious to one of ordinary skill in the art to combine the two arts for the purpose of compensating for spectrum change in the speaker's voice.

As to claim 4, the cited values are inherent in speech recognition systems including the prior arts of record since they teach where the pattern include feature vector values of various classes (Col.7, lines 45-50).

As to claim 7, Digalakis teaches where "recognized states" are determined based on the comparison of the input feature data with the stored pattern (Col.7, lines 20-25).

As to claim 10, Digalakis teaches where the SD Models are then combined with SI models by adder to register new set of SA recognition models 20 (Col3, lines 14-22)

Claims 16-20 are analogous to the claims addressed above and are rejected for the foregoing reasons by Digalakis in view of Sejnoha.

As to the lexical model as claimed Digalakis teaches using 5,000-word, closed-vocabulary bigram and trigram language models provided by Lincoln Laboratory. The trigram language model was implemented using the N-best rescoring paradigm, by

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rescoring the list of the N-best sentence hypotheses generated using the bigram language model.

.....Claims 2-3, 5-6, 8-9 and 11-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Digalakis et al. and in view of Sejnoha and further in view of Kanevsky et al. (6,442,519).

As to claims 2-3, Digalakis teaches where the patterns are classified such as by gender (120), however doesn't explicitly teach including age. Kanevsky teaches a method for adapting speaker model where the models are classified by region and age of the speakers (Fig.5). it would be obvious to expand the classification disclosed in Digalakis in view of Kanevsky for generating better patterns that are more specific to each speaker.

As to claims 5-6, the cited values are inherent in speech recognition systems including the prior arts of record, since they teach where the pattern include feature vector values of various classes (Col.7, lines 45-50).

As to claims 8-9, Digalakis teaches where "recognized states" are determined based on the comparison of the input feature dat with the stored pattern (Col.7, lines 20-25).

As to claims 11-12 Digalakis teaches where the SD Models are then combined with SI models by adder to register new set of SA recognition models 20 (Col3, lines 14-22).

..... Claims 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Digalakis et al. and in view of Sejnoha and further in view of Geilhufe et al. (6,584,439).

With regard to claims 22-27, Digalakis doesn't explicitly teach the control signal. Gilhufe teaches a method of speech recognition where control signal is generated by the speech recognition system for controlling a plurality of devices (abstract). It would be obvious to one of ordinary skill in the art to modify Digalakis system by combining the two arts for the purpose of providing a hands free control.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshida et al. (5,150,449).

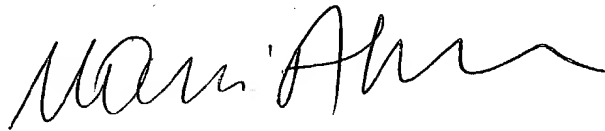
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D Abebe whose telephone number is 703-308-5543. The examiner can normally be reached on monday-friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Abebe Primary Examiner A.U. 2655

A handwritten signature in black ink, appearing to read 'Dan Abebe', with a stylized flourish at the end.

November 4, 2004